



⑪ Publication number : 0 571 135 A3

⑫ **EUROPEAN PATENT APPLICATION**

⑰ Application number : 93303719.4

⑤① Int. Cl.<sup>5</sup> : G01T 1/29

⑱ Date of filing : 13.05.93

③① Priority : 21.05.92 US 887217

④③ Date of publication of application :  
24.11.93 Bulletin 93/47

⑧④ Designated Contracting States :  
CH DE DK ES FR GB IT LI NL SE

⑧⑧ Date of deferred publication of search report :  
08.11.95 Bulletin 95/45

⑦① Applicant : Hughes Aircraft Company  
7200 Hughes Terrace,  
P.O. Box 80028  
Los Angeles, California 90080-0028 (US)

⑦② Inventor : Collins, Timothy C.  
3799 Painted Pony Road  
El Sobrante, California 94803 (US)  
Inventor : Worley, Stuart  
28236 Faircrest Way  
Escondido, California 92026 (US)  
Inventor : Kramer, Gordon  
432 Palos Verdes Boulevard  
Redondo Beach, California 90277 (US)  
Inventor : Wolfe, Douglas W.  
333 Richmond No. 2  
El Segundo, California 90245 (US)

⑦④ Representative : Colgan, Stephen James et al  
CARPMAELS & RANSFORD  
43 Bloomsbury Square  
London WC1A 2RA (GB)

⑤④ **Hybridized semiconductor pixel detector arrays for use in digital radiography.**

⑤⑦ A solid state x-ray detector which is a two-dimensional array of individual pixel elements is described. The hybrid semiconductor construction produces detector elements with high spatial resolution (< 30 microns), high sensitivity to the entire x-ray spectrum, and frame rates greater than 1000 Hz. In a biomedical application these arrays provide high quality real time digital radiographic images that are directly coupled to an image processing system for image enhancement and computer aided diagnosis. In an alternative embodiment of the invention, the hybrid construction incorporated into an automated manufacturing process facilitates the real time, nondestructive, x-ray examination of manufactured objects during the production process. Structural defects in inorganic objects under test are identified in real time during the manufacturing process are corrected when feedback signals are generated from the electronic image data generated during the nondestructive test process.

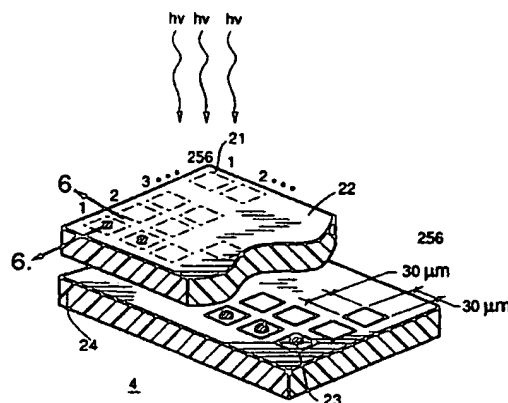


FIG. 5.



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 93 30 3719

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
Y	US-A-4 879 464 (IINUMA KAZUHIRO) 7 November 1989 * abstract * * column 3, line 35 - column 4, line 46 * * column 5, line 21 - column 6, line 16 * * column 6, line 29 - line 49 * * figures * ---	1,5,7-14	G01T1/29
Y	EP-A-0 138 647 (DIGITAL IMAGING CO) 24 April 1985 * page 18, line 1 - page 22, line 31 * * figures * ---	1,2, 5-11,13, 14	
Y	US-A-4 415 980 (BUCHANAN ROBERT A) 15 November 1983 * abstract * * column 3, line 21 - column 4, line 14 * * column 5, line 4 - line 44 * * figures * ---	1,2,6, 10-14	
A	EP-A-0 229 497 (FUTURETECH INC) 22 July 1987 * page 3, line 6 - page 4, line 6 * * page 5, line 18 - page 6, line 4 * * page 7, line 15 - page 8, line 31 * * page 11, line 8 - page 15, line 36 * * figures * -----	1	<div>TECHNICAL FIELDS SEARCHED (Int.Cl.5)</div> <div>G01T</div>
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 September 1995	Examiner Datta, S
<div>CATEGORY OF CITED DOCUMENTS</div> <div> X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document </div> <div> T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  A : member of the same patent family, corresponding document </div>			

EPO FORM 1503 CL.02 (P04C01)